

Amendments to the Claims

This listing of the claims will replace all prior versions and listings. Claims 1-29 are currently pending in this application.

Listing of Claims:

Claim 1 (original): A method for detecting cancer in a patient, comprising: extracting blood serum or plasma from the patient; detecting the presence or absence of beta-catenin RNA in the blood serum or plasma; and determining the presence of the cancer based on the detected presence of beta-catenin RNA.

Claim 2 (original): The method according to claim 1, whereby the cancer is colorectal cancer.

Claim 3 (original): The method according to claim 2, whereby determining the presence of colorectal cancer comprises detecting pre-neoplastic colorectal polyps based on the detected presence of beta-catenin RNA.

Claim 4 (currently amended): The method according to claim 1, whereby the RNA is derived from one of the group consisting of: gene-encoded beta-catenin, gene-encoded alpha-catenin, gene-encoded E-cadherin ~~cadherin~~, and other gene-encoded beta-catenin associated proteins.

Claim 5 (original): The method according to claim 1, whereby the patient is a human or animal.

Claim 6 (original): A method for detecting cancer in a patient, comprising: extracting blood serum or plasma from the patient, detecting the presence or absence of beta-catenin DNA in the blood serum or plasma; and determining the presence of the cancer based on the detected presence of beta-catenin DNA.

Claim 7 (original): The method according to claim 6, whereby the cancer is colorectal cancer.

Claim 8 (original): The method according to claim 7, whereby determining the presence of colorectal cancer comprises detecting pre-neoplastic colorectal polyps based on the detected presence of beta-catenin DNA.

Claim 9 (currently amended): The method according to claim 6, whereby the DNA is derived from one of the group consisting of: gene-encoded beta-catenin, gene-encoded alpha catenin, gene-encoded E-cadherin cadherin, and other gene-encoded beta-catenin associated proteins.

Claim 10 (original): The method according to claim 6, whereby the patient is a human or animal.

Claim 11 (original): A method for detecting cancer in a patient comprising: extracting blood serum or plasma from the patient; detecting the presence or absence of beta-catenin-associated gene RNA in the blood serum or plasma; and determining the presence of the cancer based on the detected presence of beta-catenin associated gene RNA.

Claim 12 (original): The method according to claim 11, whereby the cancer is colorectal cancer.

Claim 13 (original): The method according to claim 12, whereby determining the presence of colorectal cancer comprises detecting pre-neoplastic colorectal polyps based on the detected beta-catenin-associated gene RNA.

Claim 14 (currently amended): The method according to claim 11, whereby the RNA is derived from one of the group consisting of: gene-encoded beta-catenin, gene-encoded alpha-catenin, gene-encoded E-cadherin cadherin, and other gene-encoded beta-catenin associated proteins.

Claim 15 (original): The method according to claim 11, whereby the patient is a human or animal.

Claim 16 (original): A method for detecting cancer in a patient, comprising: extracting blood serum or plasma from the patient; detecting the presence or absence of beta-catenin-associated gene DNA in the blood serum or plasma; and determining the presence of the cancer based on the detected presence of beta-catenin-associated gene DNA.

Claim 17 (original): The method according to claim 16, whereby the cancer is colorectal cancer.

Claim 18 (original): The method according to claim 17, whereby determining the presence of colorectal cancer comprises detecting pre-neoplastic colorectal polyps based on the presence of detected beta-catenin-associated gene DNA.

Claim 19 (currently amended): The method according to claim 16, whereby the DNA is derived from one of the group consisting of; gene-encoded beta-catenin, gene-encoded alpha-catenin, gene-encoded E-cadherin cadherin, and other gene-encoded beta-catenin associated proteins.

Claim 20 (original): The method according to claim 16, whereby the patient is a human or animal.

Claim 21 (original): The method according to claims 2, 7, 12, or 16, whereby the colorectal cancer is colorectal carcinoma or colorectal adenoma.

Claim 22 (original): A method of determining the presence of carcinoma, the presence of adenoma, or the absence of carcinoma and adenoma in a patient, comprising: extracting blood serum or plasma from a patient; measuring the relative amount of beta-catenin DNA or RNA in the blood serum or plasma of the patient and the relative amount of beta-catenin DNA or RNA in the blood serum or plasma of a control person known not to have carcinoma or adenoma; determining a ratio of the amount of beta-catenin DNA or RNA detected in the blood serum or plasma of the patient to the amount of beta-catenin DNA or RNA detected in the blood serum or plasma of a control person known not to have carcinoma or adenoma, whereby the ratio of approximately 30-80 indicates the presence of adenoma, the ratio of approximately above 500 indicates the presence of carcinoma, and the ratio of approximately 1 indicates the absence of carcinoma and adenoma.

Claim 23 (original): The method according to claim 22, whereby the carcinoma is colorectal carcinoma.

Claim 24 (original): The method according to claim 22, whereby the adenoma is colorectal adenoma.

Claim 25 (currently amended): The method according to claim 22, whereby the DNA or RNA is derived from one of the group consisting of: gene-encoded beta-catenin, gene-encoded alpha-catenin, gene-encoded E-cadherin cadherin, and other gene-encoded beta-catenin associated proteins.

Claim 26 (original): The method according to claim 22, whereby the ratio of 30 indicates presence of adenoma.

Claim 27 (original): The method according to claim 22, whereby the ratio of 598 indicates the presence of carcinoma.

Claim 28 (original): The method according to claim 22, whereby the relative amount of beta-catenin DNA or RNA in the blood serum or plasma of the patient and the relative amount of beta-catenin DNA or RNA in the blood serum or plasma of a control person known not to have carcinoma or adenoma is measured using real time reverse transcription-polymerase chain reactions.

Claim 29 (original): The method according to claims 1, 6, 11, or 16, whereby the detecting step is accomplished using reverse transcription-polymerase chain reactions (RT-PCR).